

ND-SMAC

North Dakota - State Mapping Advisory Committee

Elroy Kadrmas: 701-328-8003; 600 E. Boulevard Ave Bismarck, ND 58505

Lorraine Manz: 701-328-8005

SMAC ANNUAL MEETING

September 6, 2007

In attendance:

Bruce Beechie	ND Public Service Commission
Girish Budhwar	ND Department of Public Instruction
Levi Erdmann	ND Land Department
Ann Fritz	ND Department of Health
Elroy Kadrmas	ND Geological Survey (non-voting)
Lorraine Manz	ND Geological Survey (non-voting)
Todd Norton	Advanced Engineering and Environmental Services, Inc.
Bob Nutsch	ND Information Technology Department
Tim Penfield	Houston Engineering, Inc.
Larry Ruebel	ND Division of Emergency Management
Brad Schneider	Braun Intertec Corporation
Corinne Walter	US Bureau of Land Management

Not in attendance:

Dr. Allan Ashworth	ND State University
Rod Bassler	ND State Water Commission
Brian Bieber	ND Department of Transportation
Chris Dirk	ND Parks and Recreation Department
Brian Hosek	ND Game & Fish Department
Keith Johnson	Midwest Testing Laboratory, Inc.
Chris Laveau	US Geological Survey
Dr. Rich Lefever	University of North Dakota
Ron Luethe	Natural Resources Conservation Service
Aaron Norby	Kadrmas, Lee & Jackson
Jeff Quast	ND Department of Commerce
Rachael Seifert	ND Department of Agriculture
Dr. John Webster	Minot State University

Summary of meeting minutes from STATEMAP Priority Discussion

Lorraine Manz provided an overview of current STATEMAP activities and the proposed mapping program for FY 2008. Two 24k quadrangles: Valley City East and West Fargo North were put before the committee for consideration with the comment that completion of these quadrangles will finalize the surface map coverage for both urban areas. There were no objections. All statemap published quadrangles can be downloaded at: <https://www.dmr.nd.gov/ndgs/surfacegeo/surfacemaps.asp>

The STATEMAP discussion was followed by a brief outline of other ongoing mapping projects at the North Dakota Geological Survey.

Publication Update of Previously Mapped 24k Quadrangles - Surface Geology

Lorraine Manz and Elroy Kadrmas discussed the 24k quadrangles mapped, but not previously published. All have now been published, except for seven quadrangles located in the Bismarck/Mandan area, which are in press. Those already published can be downloaded at: <https://www.dmr.nd.gov/ndgs/surfacegeo/surfacemaps.asp>

Geochemical and Deep Geothermal Mapping

Lorraine Manz gave an update on the status of the joint USGS/NDGS/NRCS/NDSU geochemical survey, indicating that the sample analyses are complete and the data available on the USGS National Geochemical Database.

Bob Nutsch asked if the geochemical survey elemental analyses included mercury (Hg). LM replied that it was but that the National Geochemical Survey Database (NGSD) warns that Hg is a difficult element to analyze accurately. Reasons include possible contamination with Hg during handling, storage, preparation for analysis, and loss of Hg during drying and storage.

Bob Nutsch also asked if the geochemical survey was intended to be a baseline study. LM said that it was and that it covers the entire U.S. (including Alaska and Hawaii).

As the nation's search for alternatives to fossil fuels continues, deep geothermal resources are of growing interest in North Dakota. In response, using data derived from oil well logs, the NDGS has embarked on the compilation of a series of 100k-scale maps that depict subsurface temperatures within the state's four geothermal aquifers. To illustrate the nature of these maps Lorraine Manz provided a recently completed example based on the Williston 100k quadrangle for the committee's inspection.

Lorraine Manz also announced that the NDGS has joined forces with UND, Encore Acquisitions, Inc., Ormat, and West Plains Electric Cooperative in a collaborative study that aims to demonstrate the feasibility of adapting organic Rankine cycle (ORC) technology to generate electricity using the low-to-intermediate temperature (90 °C to 150 °C) geothermal waters that are co-produced with oil and gas. The role of the NDGS in this study will be essentially supportive. Pending approval, funding for this project will be provided through the DOE's Geothermal Technologies Program.

Lignite Reserves

Elroy Kadrmas discussed the 24k and 100k quadrangles published. There are nineteen 100k sheets denoting Lignite Reserves. Twelve are published, five are in press, and two are in progress. Not all of the 24k maps have been published at this time. Those published can be downloaded at: <https://www.dmr.nd.gov/ndgs/Coalmaps/coalmaps.asp>

Areas of Landslides

Elroy Kadrmas discussed the 24k and 100k quadrangles published. Five 100k sheets are published, one 100k sheet is in press, and numerous 100k sheets are listed for priority mapping. Five 24k quadrangle have been published. The published quadrangles, along with the priority mapping 100k sheets can be viewed and downloaded at: <https://www.dmr.nd.gov/ndgs/landslides/landslides.asp>

Brad Schneider (Braun Intertec Corp.) inquired if any update of the slide areas in the Valley City area was planned; Valley City North and Valley City South have been mapped and published at 24k. Lorraine Manz indicated this area was proposed for surface geology mapping for Statemap.

Mineral Maps

Elroy Kadrmas discussed research and maps published for areas of mineral deposits.

Erionite mapping in the Killdeer Mountain area. This mineral has been linked to health hazards.

Cement rock deposits in Northeastern North Dakota. More information on these maps can be obtained at: https://www.dmr.nd.gov/ndgs/Publication_List/geoinvest.asp

Subsurface Geology

Elroy Kadrmas discussed numerous subsurface geology mapping projects.

Developing horizontal plays for oil and gas development in the Ratcliff Interval. This is the lower interval of the Charles Formation.

A series of statewide isopach and structure maps, involving the Greenhorn, Mowry, and Inyan Kara Formations.

A Precambrian basement drill hole map of North Dakota

A series of shallow gas screening maps at 100k scale and at county level.

The maps under the subsurface geology portion are published under the Geologic Information Series. Not all are available for download. Further information can be obtained at: https://www.dmr.nd.gov/ndgs/Publication_List/geoinvest.asp

Surface Geology

Elroy Kadrmas discussed two projects: the digitizing of the county bulletins and the surface geology maps of the urban areas.

The digitizing of the county bulletins is in a very preliminary stage.

The surface geology maps of the urban areas that are published are: Bismarck/Mandan, Jamestown, Devils Lake, Dickinson, and Minot. Proposed urban maps are: Fargo, Grand Forks, Valley City, and Williston. Further information can be obtained at: https://www.dmr.nd.gov/ndgs/Publication_List/geoinvest.asp

Uranium

Elroy Kadrmas discussed the 24k and 100k quadrangles published and in press for uranium occurrences. Further information and published quadrangles can be downloaded at:

<https://www.dmr.nd.gov/ndgs/uraniummaps/uraniummaps.asp>

Volcanic Ash

Elroy Kadrmas discussed the 24k and 100k quadrangles published for volcanic ash. The Linton 100k sheet is published. Three additional 100k sheets have potential. All the published 24k quadrangles are located in the Linton 100k sheet. Published quadrangles can be downloaded at:

<https://www.dmr.nd.gov/ndgs/Volcanic/volcanic.asp>

Levi Erdmann (ND Land Department) inquired about the reasons for mapping volcanic ash. This type of modified ash is important in the manufacture of various products.

Notes

The North Dakota Geological Survey website has many articles and other information covering numerous subjects, including the abovementioned. The address is: <https://www.dmr.nd.gov/ndgs/>

Non-NDGS Items

NAIP

NAIP	2003	1m
NAIP	2004	2m
NAIP	2005	1m
NAIP	2006	2m

Available on the NDHUB <http://gis1.state.nd.us/NAIP/>

NAIP	2007	No Collection
NAIP	2008	Chance of obtaining if North Dakota can come up with at least 1/3 of the needed funding. USDA needs to know by Dec. 2007. Contact Bob Nutsch.
NAIP	2009	No Collection
NAIP	2010	maybe?

DEMS

Additional 10m DEMs are in the pipeline and have been authorized. (<http://statgraph.cr.usgs.gov/index.htm>)

INTERAGENCY HYDROLOGIC UNIT WORKGROUP (IHUG)

Close to Completion

Data being reviewed before posting on NDHUB

Road Center Study

Done

Establishing a Steering Committee

<https://www.state.nd.us/gis/news/20061117.html>

Red River Lidar Project

<http://www.internationalwaterinstitute.org/>

2007 GIS Users Conference – September 11-13 at the Comfort Inn: Bismarck, North Dakota

<https://www.state.nd.us/gis/news/2007-conference.html>

USGS – Due to restructuring in the USGS, North Dakota/South Dakota will be getting a new USGS liaison maybe this summer. Ron Wencil will no longer be the liaison. The new liaison is Steve Shivers and will most likely be based out of Rapid City, South Dakota.

Elroy Kadrmas, SMAC Committee Co-Chair

State Mapping Advisory Committee (SMAC) 2006-2007 Membership

Co-Chairpersons: (non-voting)

Lorraine A. Manz
Geologist
North Dakota Geological Survey
600 East Boulevard Avenue
(mail address)
1016 East Calgary Avenue
(street address)
Bismarck, ND 58505-0340
(701) 328-8005
lmanz@nd.gov

Elroy L. Kadrmaz
GIS Specialist
North Dakota Geological Survey
600 East Boulevard Avenue
(mail address)
1016 East Calgary Avenue
(street address)
Bismarck, ND 58505-0340
(701) 328-8003
ekadrmaz@nd.gov

Committee Members: (voting)

Dr. Allan Ashworth
Department of Geosciences
Stevens Hall
North Dakota State University
Fargo, ND 58105
(701) 231-7919
Allan.Ashworth@ndsu.nodak.edu

Ann M. K. Fritz
Division of Water Quality
North Dakota Department of Health
1200 Missouri Avenue
P.O. Box 5520
Bismarck, ND 58506-5520
(701) 328-5226
AFritz@nd.gov

Rod Bassler
GIS Coordinator
North Dakota State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505
(701) 328-4998
rbassler@nd.gov

Brian Hosek
North Dakota Game & Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501-5095
(701) 328-6369
bhosek@nd.gov

Dr. Bruce Beechie
Environmental Scientist
North Dakota Public Service Commission
State Capitol Building
600 East Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480
(701) 328-4104
bebeechie@nd.gov

Keith Johnson
PG, CPG
Midwest Testing Laboratory Inc.
4102 7th Ave N
Fargo, ND 58108
(701) 356-7611
keithj@midwesttestinglabs.com

Brian Bieber
GIS Coordinator
North Dakota Department
of Transportation
608 East Boulevard Avenue
Bismarck, ND 58505-0700
(701) 328-2649
bbieber@nd.gov

Chris Laveau
United States Geological Survey
102 N. 4th St. Rm 322
Grand Forks, ND
(701) 775 7221 ext. 14
cldladeau@usgs.gov

Girish Budhwar
North Dakota Department of Public Instruction
600 East Boulevard Avenue, Dept. 201
(701) 328-4886
gbudhwar@nd.gov

Dr. Rich LeFever
Department of Geology and Geological Engineering
University of North Dakota
Grand Forks, ND 58202-8358
(701) 777-3014
richard_lefever@und.edu

Chris Dirk
North Dakota Parks and Recreation Department
(701) 328-5357
cdirk@nd.gov

Ron Luethe
GIS Specialist
National Resources Conservation Service
United States Department of Agriculture
200 Rosser Avenue, Room 251
Bismarck, ND 58501-1458
(701) 530-2032
ron.luethe@nd.usda.gov

Levi Erdmann
North Dakota Land Department
P.O. Box 5523
Bismarck, ND 58506-5523
lerdmann@nd.gov

Aaron Norby, P.L.S.
Geographic Information Systems
Kadrmass, Lee & Jackson
3237 E. Broadway Ave
Bismarck, ND 58501
(701) 355-8400
aaron.norby@kljeng.com

Todd Norton
Survey/CADD Manager
Advanced Engineering and Environmental Services, Inc.
1815 Schafer Street, Suite 301
Bismarck, ND 58501
(701) 221-0530
Todd.Norton@ae2s.com

Bob Nutsch
GIS Coordinator
North Dakota Information Technology Department
600 East Boulevard Avenue, Dept. 112
Bismarck, ND 58505
(701) 328-3212
bnutsch@nd.gov

Tim Penfield
GIS Project Manager
Houston Engineering, Inc.
3712 Lockport Street
Bismarck, ND 58203
(710) 323-0200
tpenfield@houstonengineeringinc.com

Jeff Quast
Research Analyst
Economic Development & Finance Division
North Dakota Department OF Commerce
1600 East Century Avenue, Suite 2
Bismarck, ND 58502
(701) 328-5323
jquast@nd.gov

Larry Ruebel
North Dakota Department of Emergency Services
P.O. Box 511
Bismarck, ND 58506
(701) 328-8100
lruebel@nd.gov

Brad Schneider
Braun Intertec Corporation
PO Box 9296
Fargo, ND
(701) 232-8701
bschneider@braunintertec.com

Rachael Seifert
North Dakota Department of Agriculture
600 East Boulevard Avenue, Dept. 602
Bismarck, ND 58505-0020
rseifert@nd.gov

Corinne Walter
IT Specialist
North Dakota Field Office
Bureau of Land Management
2933 3rd Avenue West
Dickinson, ND 58601
(701) 227-7700
cwalter@blm.gov

Dr. John Webster
Department of Geosciences
Office 121 CMSC
Minot State University
500 University Avenue West
Minot, ND 58707
(701) 858-3873
john.webster@minotstateu.edu